

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION

CARLOS R. PIKE,

Plaintiff,

v.

PREMIER TRANSPORTATION &  
WAREHOUSING, INC., ET AL.

Defendants.

No. 13 CV 8835

Magistrate Judge Mary M. Rowland

**MEMORANDUM OPINION AND ORDER**

Plaintiff Carlos R. Pike brings this personal injury action against Defendants Premier Transportation & Warehousing, Inc. and Daniel M. Duben, Sr. (“Duben”), alleging that Duben was negligent in operating a semi-trailer truck. The parties have consented to the jurisdiction of the United States Magistrate Judge pursuant to 28 U.S.C. § 636(c) and this case is set for trial on November 14, 2016.

Plaintiff filed a Motion to Exclude Causation Opinions of C. Brian Tanner (“Motion”). (Dkt. 50). Defendants retained Mr. Tanner to analyze the accident and the movement of Mr. Pike in his car to determine whether his exposure in the accident was consistent with causing his reported injuries. (50-4). Plaintiff does not object to Mr. Tanner testifying at trial or to his qualifications as a biomechanical engineer. (53 at 2). Instead, Plaintiff seeks to bar testimony by Mr. Tanner about the cause of Plaintiff’s injuries. (50 at 3; 53 at 2).

For the reasons set forth below, the Motion is **DENIED**.

## A. Legal Standard

Under *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 589, 113 S. Ct. 2786, 2795 (1993), the requirements of Federal Rule of Evidence 702 must be met before an expert can testify. As the Seventh Circuit has explained:

“(t)he purpose of the *Daubert* inquiry is to scrutinize proposed expert witness testimony to determine if it has ‘the same level of intellectual rigor that characterizes the practice of an expert in the relevant field’ so as to be deemed reliable enough to present to a jury. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152, 119 S. Ct. 1167, 143 L. Ed. 2d 238 (1999). A *Daubert* inquiry is not designed to have the district judge take the place of the jury to decide ultimate issues of credibility and accuracy. If the proposed expert testimony meets the *Daubert* threshold of relevance and reliability, the accuracy of the actual evidence is to be tested before the jury.” *Lapsley v. Xtek, Inc.*, 689 F.3d 802, 805 (7th Cir. 2012).

District courts have broad discretion to determine the admissibility of expert testimony. *EEOC v. DHL Express (USA), Inc., No. 10 C 6139, 2016 U.S. Dist. LEX-IS 135083*, at \*3 (N.D. Ill. Sep. 30, 2016). The party seeking to admit the expert has the burden of showing their expert meets the requirements of Rule 702 and *Daubert*. *Id.* at \*4. Because “there are many different kinds of experts, and many different kinds of expertise, . . . the gatekeeping inquiry must be ‘tied to the facts’ of a particular case.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 150 (1999) (quoting *Daubert*, 509 U.S. at 591). Courts review each conclusion of the expert individually in relation to the expert’s education, skill, and training. *Gayton v. McCoy*, 593 F.3d 610, 617 (7th Cir. 2010).

## **B. Mr. Tanner's Opinions**

Defendants asked Mr. Tanner to “perform an analysis of the accident to determine the speed change and acceleration of the Nissan as a result of the contact by the truck (and) of the kinematics and kinetics of Mr. Pike within the Nissan to determine whether his exposure in the accident was consistent with causing his reported injuries.” (50-4 at 4).<sup>1</sup> Mr. Tanner’s report (the “Report”) contains his conclusions. *Id.* at 10-11. Of Mr. Tanner’s conclusions, Plaintiff objects to the following “causation opinions” (50 at 4-5):

3. The longitudinal and lateral change in the speed for the Nissan in the subject accident was less than 2 miles per hour.
4. The maximum average acceleration of the Nissan in any direction during the impact was well below 1 g.
5. There is no mechanism in the subject accident to cause any acute injury to the knees or any aggravation of a pre-existing condition.
6. There is no mechanism from either direct contact or from over extension or stretching that could cause an acute peroneal nerve lesion.
7. During the subject collision, Mr. Pike’s body will at most rock left and right within the driver’s seat.
8. The accelerations to which Mr. Pike’s body is exposed in the accident are not greater than the body is exposed to during normal daily activities.
9. Mr. Pike’s exposure to the forces in the subject accident is not biomechanically consistent with causing any significant acute injury to the lumbar spine or its surrounding tissue.

## **C. Discussion**

Plaintiff objects to Mr. Tanner offering causation opinions and to his methodology. Plaintiff does not challenge Mr. Tanner’s qualifications as a biomechanical engineer. (50 at 3, 6). In his Reply brief, Plaintiff again stresses that he is “not challeng-

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<sup>1</sup> Mr. Tanner’s Report is attached as Exhibit A to Defendants’ Rule 26(a)(2) Disclosures, which are attached as Exhibit D to the Motion.

ing Tanner’s qualifications as a biomechanical engineer.” (53 at 2).<sup>2</sup> Indeed, based on a review of his qualifications, discussed further below, this Court finds he is qualified as an expert in biomechanical engineering, as have other courts. See *Maybaum v. Rakita*, 2002-Ohio-5338, ¶ 33 (Ct. App.) (“(T)here is no question that Tanner was properly qualified as an expert in the field of biomechanical engineering.”).

As the parties’ briefs demonstrate, courts have decided the issue of whether a biomechanic expert can opine about “medical causation” or the cause of a plaintiff’s specific injuries differently. Nevertheless, case law in this district, as well as general principles regarding the admissibility of expert testimony, support the finding that Mr. Tanner is qualified to give the opinions from his Report, that his methodology is sound, and that his testimony will be helpful the jury. Plaintiff is free to test Mr. Tanner’s conclusions and methodology on cross-examination at trial.

### ***1. Biomechanical Engineering***

Plaintiff contends that Mr. Tanner cannot opine about the cause of Plaintiff’s specific injuries because he is not a medical doctor. In Defendants’ view, Mr. Tanner’s qualifications as a biomechanical engineer are precisely what qualifies him to give the testimony regarding the force on Mr. Pike’s body, the types of injury *that*

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<sup>2</sup> At oral argument, Plaintiff’s counsel challenged Mr. Tanner’s qualification as a biomechanical engineer, as opposed to a mechanical engineer, arguing that he had only taken one anatomy class. The argument that Mr. Tanner is not qualified as a biomechanical engineer, directly contradictory to the arguments in Plaintiff’s briefs, is waived. *Quality Oil, Inc. v. Kelley Partners, Inc.*, 657 F.3d 609, 614 (7th Cir. 2011) (arguments raised for the first time at oral argument are waived). In any event, the Court finds he is qualified to testify as a biomechanical engineer.

amount of force could cause, and whether Mr. Pike's alleged injuries were consistent with that analysis. (52 at 3-4, 7-9).

Because the parties disagree about what testimony a biomechanical engineer is qualified to give, a brief discussion of the field of biomechanics is appropriate. Biomechanical engineering or biomechanics is a multidisciplinary field that involves the application of mechanical principles to biological systems, or injury mechanics. Channing R. Robertson, John E. Moalli & David L. Black, *Reference Guide on Engineering*, in REFERENCE MANUAL ON SCIENTIFIC EVIDENCE at 901 (Federal Judicial Center, 3d ed. 2011). To distinguish the role of a medical doctor from that of a biomechanical engineer, the Reference Guide on Engineering published by the Federal Judicial Center and National Research Council explains: "The traditional role of the physician is the diagnosis (identification) of injuries and their treatment, not necessarily a detailed assessment of the physical forces and motions that created injuries during a specific event." *Id.* at 901. Therefore, a biomechanical expert may opine about whether plaintiff's "alleged damages were caused by the conduct in question." *Id.* at 942-43 (collecting cases). As with other expert testimony, a court must review the adequacy and admissibility of expert opinion on causation in light of its scientific basis and the law. *See id.*

As explained in a recent decision from this district, biomechanical engineers "are qualified to testify on injury mechanisms." *McKeon v. City of Morris*, No. 14 CV 2084, 2016 U.S. Dist. LEXIS 131126, at \*6 (N.D. Ill. Sep. 26, 2016). While not qualified to diagnose injuries, the biomechanical engineer could "interpret the diagnoses

of (plaintiff's) treating physicians in order to opine on the likely mechanisms of (plaintiff's) injuries." *Id.* (citing *Phillips v. Raymond Corp.*, 364 F. Supp. 2d 730, 742 (N.D. Ill. 2005)).

## ***2. Admissibility of Mr. Tanner's Opinions***

Plaintiff challenges opinions #3-9 in Mr. Tanner's Report. Opinions #3, #4, #7, and #8 will not be excluded. They address the speed and acceleration of Plaintiff's vehicle and the resulting force on Plaintiff's body. First, Plaintiff expressly states that he is not challenging Mr. Tanner's testimony that the low speed of the collision resulted in "minimal accelerations and forces on Mr. Pike's body." (50 at 3). Moreover, these opinions about the mechanics and movements involved in the accident are clearly within Mr. Tanner's expertise in biomechanics, which is demonstrated by his educational degrees in mechanical engineering, his numerous publications related to injury mechanics, his extensive training and work experience in an orthopedic biomaterials laboratory and at the National Highway Traffic Safety Administration developing and testing crash test dummies and injury assessment tools, and his consulting experience at S-E-A Ltd. focused on accident reconstruction and injury causation since 1994. (50-4 at 6; 52 at 8; 52-1).

These qualifications also provide the basis for Mr. Tanner to opine that there is no mechanism in the subject accident to cause any acute injury to the knees or any aggravation of a pre-existing condition (#5); no mechanism from either direct contact or from over extension or stretching that could cause an acute peroneal nerve lesion (#6); and Mr. Pike's exposure to the forces in the subject accident is not

biomechanically consistent with causing any significant acute injury to the lumbar spine or its surrounding tissue (#9). While Opinions #5, #6, and #9 present the more challenging question because they are more specific to the cause of Mr. Pike's injuries, the Court concludes that Mr. Tanner's testimony is admissible and will be helpful to the jury.

As an initial matter, although Plaintiff characterizes Mr. Tanner's opinions as "medical", none of Mr. Tanner's opinions diagnose or attempt to diagnose Mr. Pike's injuries. Mr. Tanner's reference to a pre-existing condition, acute peroneal nerve lesion, and the lumbar spine in Opinions 5, 6, and 9, respectively, reference Mr. Pike's doctors', not Mr. Tanner's, diagnoses. Similar to *McKeon*, Mr. Tanner is permitted to review the diagnoses of the treating physicians in order to give opinions regarding the likely mechanisms of plaintiff's injuries. 2016 U.S. Dist. LEXIS 131126, at \*6; *see also Finn v. BNSF Ry. Co.*, No. 11-CV-349-J, 2013 U.S. Dist. LEXIS 16557, at \*7 (D. Wyo. Feb. 6, 2013) ("the Court finds (biomechanical engineer) Dr. Broker is not making a diagnosis or rendering a medical opinion.").

Plaintiff argues that the Court should prevent Mr. Tanner from testifying as to "medical causation" of Plaintiff's injuries—whether the force involved in this accident "cause[d] [] Mr. Pike's specific injuries." (50 at 3). Some courts have allowed testimony from biomechanics experts about the forces involved in an accident, but have barred the expert from testifying to whether the forces in the accident caused plaintiff's specific injuries. *Smelser v. Norfolk S. Ry.*, 105 F.3d 299, 305 (6th Cir. 1997) (biomechanic expert could not testify about the cause of plaintiff's specific in-

juries); *Kelham v. CSX Transp., Inc.*, No. 2:12-cv-316, 2015 U.S. Dist. LEXIS 93669, at \*13 (N.D. Ind. July 17, 2015); *Braxton v. DKMZ Trucking, Inc.*, No. 4:13-cv-1335-JCH, 2015 U.S. Dist. LEXIS 17825, at \*9 (E.D. Mo. Feb. 13, 2015). However, other courts have allowed this testimony, finding that it would assist the trier of fact and noting the distinction from medical opinions is what makes such testimony useful. *McKeon*, 2016 U.S. Dist. LEXIS 131126 at \*9-11 (though not qualified to “diagnose McKeon’s injuries, [the biomechanical engineer] fulfills a different role in this case.”); *Finn*, 2013 U.S. Dist. LEXIS 16557, at \*6 (“Biomechanical testimony can offer, distinct from medical opinions, testimony concerning the biomechanical forces and relationship between these forces and the medical opinions of the medical experts.”); *see also Phillips*, 364 F. Supp. 2d at 741.

In *Phillips*, 364 F. Supp. 2d 730, biomechanical engineer, Mr. Lui was permitted to testify about “the mechanism of injury to Phillips as a result of the accident as it occurred.” *Id.* at 739. The Court found Mr. Lui qualified to testify about the mechanism of plaintiff’s actual injury, in other words, “how Phillips sustained his leg injuries.” *Id.* at 742. Mr. Lui’s testimony discussed “what would have happened to Phillips (plaintiff) (i.e., how a person might be injured) when he fell out of the forklift as he claims he did.” *Id.* Similarly, the court in *McKeon* permitted the biomechanical engineer to testify that plaintiff’s injury was “likely the result of a direct blow to the inside of the knee and that such a blow is consistent with McKeon’s version of events but not with Defendants’.” 2016 U.S. Dist. LEXIS 131126 at \*3.

In the present case, the main dispute—whether the accident caused Mr. Pike’s injuries—is a fact question for the jury. *See Taylor v. Bennett*, 323 F.2d 607, 609 (7th Cir. 1963) (“It is clear from the record that the question whether the January, 1959 accident was the cause of injury to plaintiff’s lower back was disputed throughout the trial. Thus, a fact question was presented for the jury to determine.”). Mr. Tanner can assist the jury with this question by giving his conclusions about the mechanics of the accident and whether Mr. Pike’s injuries were biomechanically consistent with those mechanics. The jury will then be able to weigh Mr. Tanner’s testimony, which will be subject to cross-examination, against testimony from the treating physicians who observed and diagnosed Mr. Pike.

Although Plaintiff objects to Mr. Tanner testifying that “Mr. Pike was not injured in the subject collision,” (50 at 3) Opinions #3-9 do not make this statement. Rather, he opines that the forces in the accident are not consistent with the injuries Plaintiff claims. Moreover, while experts cannot testify about a *legal* conclusion that will determine the outcome of a case, they can offer opinions about the ultimate *factual* issue in a case. *Good Shepherd Manor Found. v. City of Mومence*, 323 F.3d 557, 564 (7th Cir. 2003); Fed. R. Evid. 704(a). Recognizing the distinction between legal and factual causation, the court in *Miksis v. Howard*, 106 F.3d 754, 762 (7th Cir. 1997), found it proper to admit expert testimony regarding whether the driver was fatigued and whether that fatigue could have caused the driver to hit plaintiff’s construction bucket. Similarly here, there is a factual dispute over whether the accident caused Plaintiff’s injuries. Mr. Tanner’s testimony does not address whether

Defendants were negligent, whether Mr. Pike was contributorily negligent, or whether either party's negligence caused the accident or the injuries. To the extent Mr. Tanner's testimony at trial ventures into legal causation, Plaintiff may raise objections at that time. Additionally, the court will "instruct the jury on the appropriate meaning of the legal standard and that the jury is free to reject the testimony of the expert." *Richman v. Sheahan*, 415 F. Supp. 2d 929, 948 (N.D. Ill. 2006); see e.g., Seventh Circuit Pattern Civil Federal Jury Instructions 1.21.

Thus Plaintiff's concerns can be addressed at trial. *Stollings v. Ryobi Techs., Inc.*, 725 F.3d 753, 766 (7th Cir. 2013) ("An expert may provide expert testimony based on a valid and properly applied methodology and still offer a conclusion that is subject to doubt. It is the role of the jury to weigh these sources of doubt."); *Sachs v. Reef Aquaria Design, Inc.*, No. 06 C 1119, 2007 U.S. Dist. LEXIS 79809, at \*16 (N.D. Ill. Oct. 25, 2007) (examination is the appropriate method for attacking such shortcomings in expert opinions); *Phillips*, 364 F. Supp. 2d at 740 ("Raymond is free to argue at trial that the jury should not put much weight in Liu's study since its results do not adequately shed light on the instant case before the trier of fact."); *In re Zimmer Nexgen Knee Implant Prods. Liab. Litig.*, No. MDL No. 2272, 2015 U.S. Dist. LEXIS 107083, at \*48 (N.D. Ill. Aug. 13, 2015) (citations omitted) (the court will not "take the place of the jury to decide ultimate issues of credibility and accuracy.").

### **3. Mr. Tanner's Methodology**

According to Plaintiff, even if Mr. Tanner is qualified to give his opinions, his methodology is flawed. This Court concludes that Mr. Tanner's methodology is sound and Plaintiff's objections go to the weight of his conclusions, not their admissibility. Mr. Tanner reviewed a number of materials, including the accident report, photographs of the vehicles, aerial and street level images of the accident scene, Mr. Pike's medical records, transcripts of the depositions of Mr. Pike, Mr. Duben, Mr. Schergen, and Mr. Pike's two doctors, and a peer-reviewed publication. (50-4, Exh. D). Mr. Tanner also performed computer simulations of the accident and an analysis of the kinematics and kinetics of Mr. Pike in the accident. *Id.*

Plaintiff asserts that Mr. Tanner failed to inspect the actual vehicles or investigate the scene of the incident, to specifically calculate the precise forces on Mr. Pike's body, and to consider "objective medical testing (right knee MRI, EMG, and intraoperative observations of the doctors)." (50 at 8; 15-17). Plaintiff also argues that Mr. Tanner made faulty force comparisons and did not sufficiently consider Dr. Siemionow's testimony about Mr. Pike's injuries. *Id.* at 16-17. Plaintiff, however, fails to cite any authority stating that the methodologies he believes Mr. Tanner should have employed are standard in the biomechanic or accident reconstruction science community. Other courts have found methodology similar to Mr. Tanner's to be sufficient under *Daubert*. See e.g., *Paine v. Johnson*, No. 06 C 3173, 2010 U.S. Dist. LEXIS 17097, at \*6-10 (N.D. Ill. Feb. 25, 2010) (admitting accident reconstruction expert testimony where expert reviewed traffic collision report, photographs of

the vehicle after the accident, photographs of the accident site, and extensive mechanical and structural information about the car and objects with which it collided during the accident); *Miles v. GMC*, 262 F.3d 720, 724 (8th Cir. 2001) (rejecting challenges to biomechanic expert’s methodology underlying his injury causation opinion, including challenge that the expert should have inspected the scene of the accident).

Plaintiff’s argues that Mr. Tanner did not review certain medical records, but “[n]either *Daubert* nor the Federal Rules of Evidence requires an expert to review all of the facts, only a ‘sufficient’ amount is required.” *Hoskins v. Gunn Trucking*, No. 4:07-CV-72 JD, 2010 U.S. Dist. LEXIS 109090, at \*34 (N.D. Ind. Oct. 12, 2010). Moreover, any shortcomings that Plaintiff perceives in Mr. Tanner’s methodology may be explored on cross-examination. *See Paine*, 2010 U.S. Dist. LEXIS 17097, at \*9-10 (challenge to expert’s failure to refer to or consider plaintiff’s medical records goes to weight not admissibility of expert’s conclusions); *see also Meds. Co. v. Mylan Inc.*, No. 11-cv-1285, 2014 U.S. Dist. LEXIS 40514, at \*15 (N.D. Ill. Mar. 27, 2014) (challenge to expert’s conclusions and methodology can be addressed through “rigorous cross-examination at trial if (the party) so chooses”).

**D. Conclusion**

For the reasons discussed, the Motion is **DENIED**.

E N T E R:

A handwritten signature in cursive script, reading "Mary M. Rowland".

Dated: November 8, 2016

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MARY M. ROWLAND  
United States Magistrate Judge